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### Local variance in the crime drop

**Citation for published version:**

Bates, E, Bannister, J & Ade, K 2014 'Local variance in the crime drop: Are there winners and losers?' AQMeN Research Briefings, no. 3, AQMeN. <[https://www.aqmen.ac.uk/sites/default/files/RB3-local-variance-winners-losers\\_0.pdf](https://www.aqmen.ac.uk/sites/default/files/RB3-local-variance-winners-losers_0.pdf)>

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Publisher's PDF, also known as Version of record

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# Local differences in the crime drop: Are there winners and losers?

Jon Bannister, Ellie Bates and Ade Kearns

## Key points

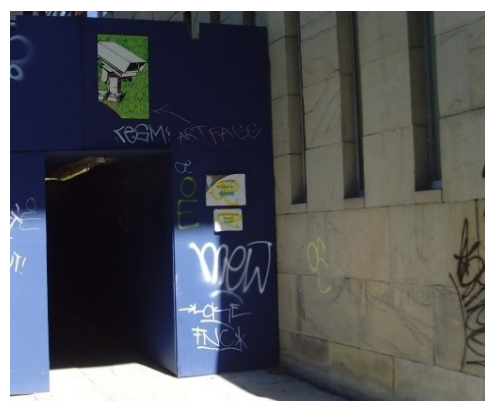
- The research identified 8 distinct neighbourhood groupings, classified according to the level of crime and crime drop trajectory.
- The research uses data drawn from the Scottish Index of Multiple Deprivation which includes: crimes of violence, domestic housebreaking, drugs offences, minor assault, and vandalism.
- Most neighbourhoods have experienced a drop in crime, though the scale of this fall varies considerably by neighbourhood grouping.
- The level of crime across neighbourhood groupings, whether high, medium or low crime, has remained stable over the study period.
- High, medium and low crime neighbourhood groupings vary in size and in their contribution to the overall crime drop.
- High crime neighbourhoods comprise only 1% of all neighbourhoods, yet account for 10% of the aggregate crime drop. Low crime neighbourhoods comprise 53% of all neighbourhoods yet have contributed only 26% of the crime drop.
- There is a distinct geographical pattern of high, medium and low crime neighbourhoods. City centre neighbourhoods experience both the highest levels of crime and the highest crime drop.

## Applied Quantitative Methods Network

AQMeN is a Research Centre developing a dynamic and pioneering set of inter-disciplinary projects to improve understanding of current social issues in the UK.

This Research Briefing reports on a preliminary investigation of local differences in the crime drop in the Greater Glasgow area between 2004 and 2010/11.

In recent years, a crime drop has been identified in the United States and across much of Europe. A similar trajectory of falling crime has also been identified in Scotland. Typically, attention has focused on exploring the crime drop at the level of the nation state. There has been a more limited endeavour to explore the crime drop at neighbourhood level. The research reported here begins to redress this shortfall by examining the crime trajectories of neighbourhoods in the Greater Glasgow



City centre neighbourhoods experience both the highest level of crime and the highest crime drop. © Ellie Bates.

area. The research questions whether there are winners and losers of the crime drop at this level (see box 1 for details of the data, study area and methods).

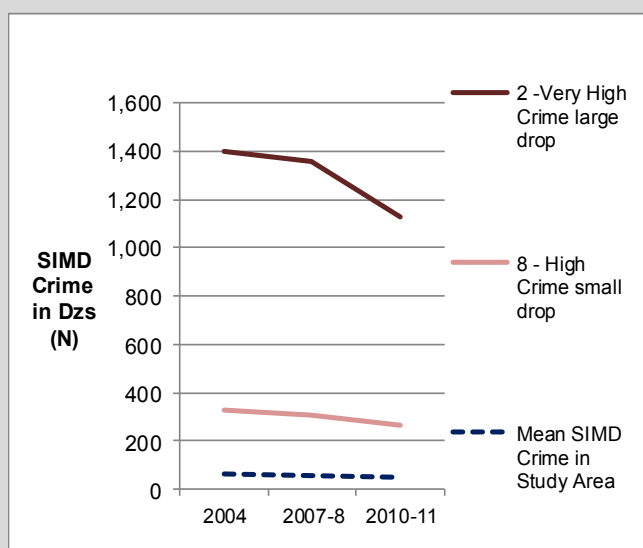
### Box 1: Data, study area and methods

The research uses crime data drawn from the Scottish Index of Multiple Deprivation (SIMD) in 2004, 2007-8 and 2010-11. Police recorded crime data incorporated into the SIMD includes: crimes of violence; domestic housebreaking; drugs offences; minor assault; and, vandalism. The smallest geographical unit at which the data is published is the data zone. Data zones comprise homogenous populations of around 500 – 1000 people. The Greater Glasgow area comprises 940 data zones (SIMD crime data is published for 882 of these). Data was obtained from the Scottish Neighbourhood Statistics website [www.sns.gov.uk](http://www.sns.gov.uk).

In total, 8 distinct groups of data zones were determined by the analysis. The groups were labeled according to their level of crime (high / medium / low) and the scale of the drop in crime they exhibited (large / moderate / small). The groups comprised different numbers of data zones.

The research employed Group Trajectory Analysis, a type of Latent Class Analysis, to determine statistically significant groups of data zones that possessed different levels of crime and followed distinct crime-drop trajectories.

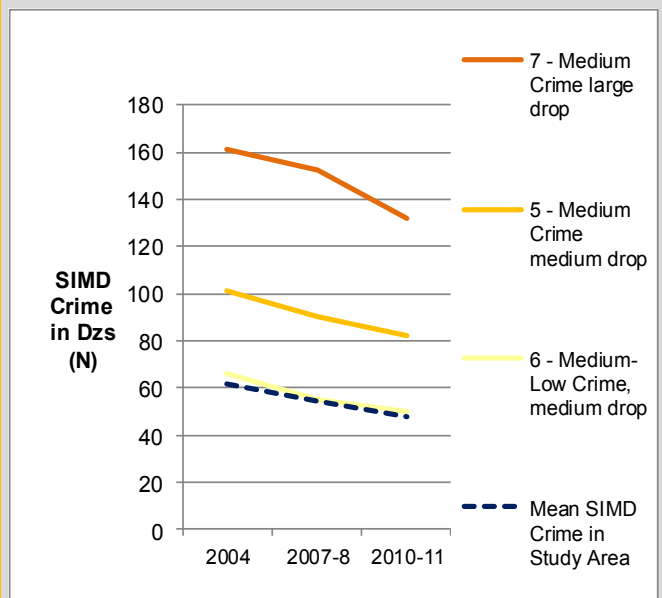
**Figure 1: Trajectories of High Crime Groups**



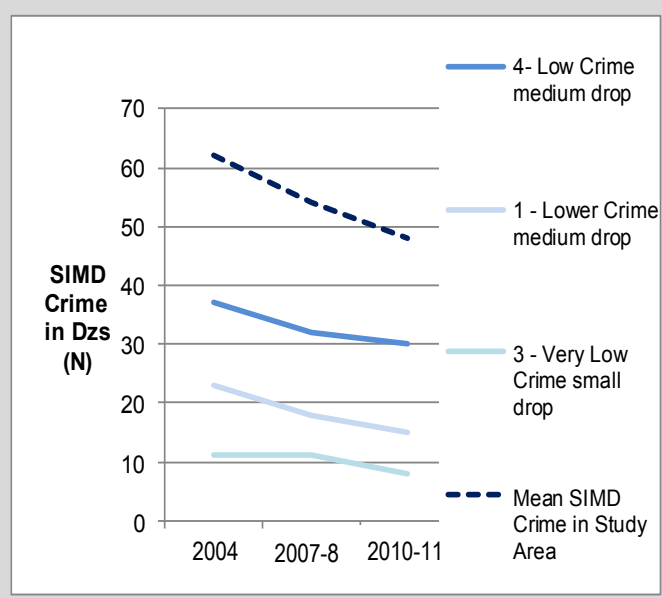
### Why is it important to examine the crime drop at the neighbourhood level?

Multiple and competing explanations have been advanced to account for this drop. Changing patterns of formal social control relating to aspects of punishment and policing, and to a reduction of criminal opportunities have all been suggested to have an influence. Similarly, various social trends encompassing aspects of deprivation, demography and social dynamics have been identified as potentially influential factors. Examining the neighbourhood level, where many of these factors exhibit significant distinction, holds the potential to determine the impact and interplay of formal social controls and social trends on the crime drop.

**Figure 2: Trajectories of Medium Crime Groups**



**Figure 3: Trajectories of Low Crime Groups**



The policy relevance of this research is twofold. First, it can contribute to the decision-making surrounding the scale and type of crime prevention measures deployed in localities. Second, and related, it can inform decision-making surrounding the scale and type of public reassurance measures deployed in local areas.

Figures 1-3 present the crime drop trajectories for the 8 distinct groups of data zones. The figures distinguish between the groups with high, medium and low levels of crime. The figures present the decline in the absolute number of crimes in each group and include the mean crime drop trajectory of the Greater Glasgow area for reference.

There is clear evidence of a fall in crime in all eight groups. However, the overall position of each group relative to all the others has remained stable. In other words, high crime neighbourhoods tend to remain high crime neighbourhoods, even though they have experienced a fall in crime.

### **Areas in high crime groups see more dramatic absolute drops in crime than areas in medium or low groups**

Examining the data in detail, Greater Glasgow experienced a 22% drop in crime over the study period. In total, 70% of all data zones experienced a fall in crime. The high crime group areas experienced the most dramatic fall the in absolute level of crime. On average these areas experienced a fall of 160 crimes over the three time points. By contrast, medium crime group areas and low crime group areas experienced falls of 35 and 12 crimes, on average, respectively. In presenting these findings, it should be emphasized that these figures mask even greater variance in the crime drop at the data zone level.

### **High, medium and low crime neighbourhood groupings vary in size and in their contribution to the overall crime drop**

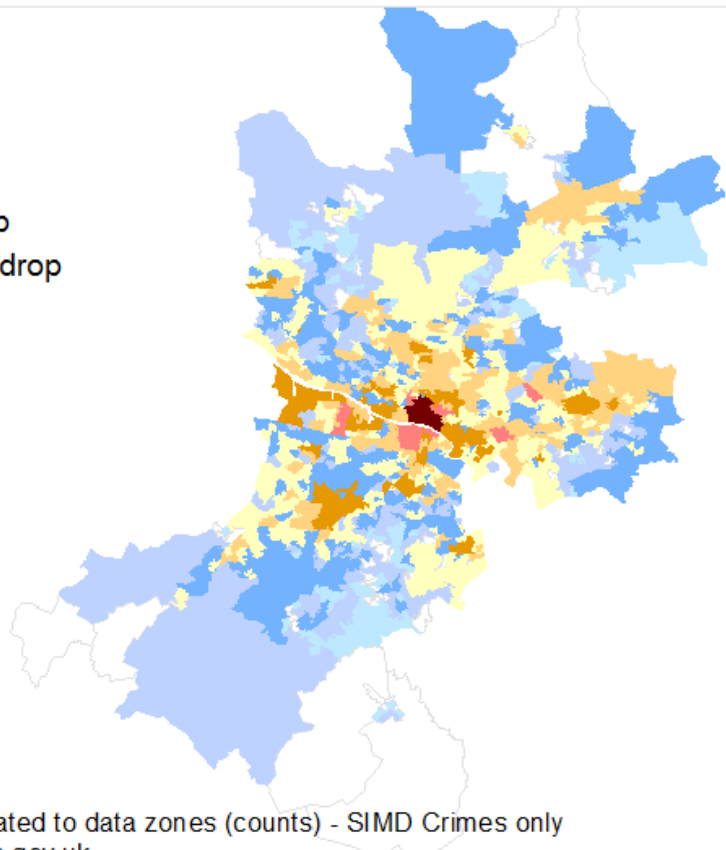
A key question that emerges from this analysis is the extent to which each group contributed to the crime

**Figure 4: Spatial pattern of the crime drop**

#### **All data zones**

- 2 - Very High Crime, large drop
- 8 - High Crime, small drop
- 7 - Medium Crime, large drop
- 5 - Medium Crime, medium drop
- 6 - Medium-Low crime, medium drop
- 4 - Low Crime, medium drop
- 1 - Lower Crime, medium drop
- 3 - Very low crime, small drop
- No Data for one or more years

0 5 10  
Kilometers



Crime Data: Police recorded crime aggregated to data zones (counts) - SIMD Crimes only  
© Crown copyright 2014 – source [www.sns.gov.uk](http://www.sns.gov.uk).  
Boundary Data: Contains Ordnance Survey data  
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drop (in terms of the absolute number of crimes) in Greater Glasgow. An important and related issue concerns the number of data zones within each crime group. In overview, the high crime groupings, while representing only 1% of all data zones, have contributed 10% of the crime drop. The medium crime groupings, comprising 46% of all data zones, have contributed 64% of the crime drop. Finally, the low crime groupings, representing 53% of all data zones, have contributed 26% of the crime drop.

### **The Spatial Pattern of the Crime Drop**

Figure 4 presents the spatial spread of the crime drop in Greater Glasgow. It is clear that the groupings experiencing both the highest level and the greatest fall in crime are located in or near the city centre. By contrast, the groupings experiencing the lowest level and the smallest fall in crime are located on the periphery of the Greater Glasgow area, though not exclusively so.

### **Conclusions**

Assessing whether there are clear winners and losers in the crime drop is not a straightforward task. The data zones that have experienced the highest drop in crime still remain the areas with the highest levels of crime. By contrast, the neighbourhoods that have experienced the lowest fall in crime are areas with the lowest levels of crime. Are those neighbourhoods that have experienced the greatest fall in crime

the winners? Or, does the fact that these neighbourhoods continue to experience the highest level of crime make them the losers?

The crime groupings identified by this research vary significantly according to the number of data zones they comprise and the extent of the crime drop for which they account. Moreover, these groupings exhibit a distinct geographical pattern. These findings serve to highlight the importance of investigating the drivers of the crime drop at the neighbourhood level. Whether aspects of formal social control or social trends are driving the crime drop, it is clear that they are operating in different ways and intensities across the city.

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